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IS : 10213-1982

(Reaffirmed 2001)

Indian Standard

SPECIFICATION FOR SANDWICH BELTING

1. Scope — Lays down the requirements for sandwich belting used for power transmission.

2. Dimensions and Tolerances

2.1 *Length* — The length shall be as specified by the purchaser subject to following tolerances:

a) For belts delivered in endless state the tolerance shall be ± 0·5 percent of specified lengths; and

b) For open belts, the delivery length shall be within ± 0·5 percent of the ordered length.

2.2 *Width* — The widths and tolerances of belts and corresponding pulleys shall be as given below:

All dimensions in millimetres.

Belt Width	Tolerance	Corresponding Pulley Width	Tolerance
16	±2	20	±1
20		25	
25		32	
32		40	
40		50	
50		63	
63		71	
71	±3	80	±1.5
80		90	
90		100	
100		112	
112		125	
125		140	
140	±4	160	±2
160		180	
180		200	
200		224	

2.3 *Thickness* — Thickness of the sandwich belting depends upon the number of plies and shall be as given below:

Total Belt Thickness mm	No. of Plies of Tension Member	Total Thickness of Tension Member mm
1·20	1	0·5
2·75	1	0·5
3·50	1	0·5
3·75	1	0·8
4·00	2	1·0
4·50	1	0·8
5·00	2	1·6
5·50	2	1·0
6·00	3	2·4
6·75	2	1·6
7·00	4	3·2
8·00	3	2·4
9·00	4	3·2

Pulleys and Belts Sectional Committee, EDC 42; Leather Belting Subcommittee, EDC 42 : 2 [Ref : Doc : EDC 42 (2975)]

Adopted 21 July, 1982

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Gr 2

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

2.3.1 *Construction tolerances on thickness*:

Single ply	± 0·5 mm
Two ply	± 0·75 mm
Three or more plies	± 1·00 mm

3. Construction — The belting shall consist of the tractive ply made of high tensile polyamide strips, bonded to chrome leather of high co-efficient of friction on both sides or one side chrome leather and other side suitable cover of cloth/woven perlon.

4. Reinforcement — The high tensile polyamide strips may have a similar width as that of the belt. The belts may be joined in such a fashion that there may be a minimum of 1 mm gap in between polyamide strips in the longitudinal direction. The thickness and width of polyamide strips shall be uniform throughout its length and within tolerance of ±0·005 mm and ± 0·05 mm respectively.

5. Covers — Leather cover either in one side or both the sides shall be properly buffed and total thickness shall be within the specified tolerance. Cover thickness shall be as agreed by the purchaser and the manufacturer.

The edges of the finished belting shall be free from cuts.

6. Joints

6.1 *Transverse Joint* — There shall not be any transverse joint in less than 450 mm length either in the plies or covers. Transverse joint for making the belt endless shall be at the angle of 70°.

6.2 *Longitudinal Joints* — There shall not be any longitudinal joint in the belt.

7. Designation — Belt shall be designated by the width, thickness and the number of this standard.

Example:

Belt with width of 100 mm and thickness of 6·75 mm shall be designated as:

Belt 100 × 6.75 IS : 10213

8. Tests

8.1 *Tensile Test* — The belt shall be subjected to tensile test holding the sample belt in a suitable grip on tensile testing machine and the tensile strength of the polyamide strips used shall be 40 kN/cm^2 minimum.

8.2 *Adhesion* — The adhesion value between the leather and the polyamide shall not be less than 125 N/25 mm width of belting.

8.3 *Co-efficient of Friction* — Co-efficient of friction of chrome leather driving surface shall not be less than 0.6 and shall not exceed 0·9.

9. Marking — Belt shall be legibly marked with manufacturers name or trade-mark and the year of manufacture.

9.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

10. Packing — The belts shall be suitably packed as mutually agreed to between the purchaser and the supplier.

EXPLANATORY NOTE

This standard covers the requirements for sandwich belting used for power transmission. In preparation of this standard considerable assistance has been derived from ISO : 22-1975 'Flat transmission belts and corresponding pulleys — widths', issued by the International Organization for Standardization.

Information to be supplied with the enquiry or when placing an order shall be as given in Appendix A.

APPENDIX A

(*Explanatory Note*)

Information to be supplied with the enquiry or when placing an order.

a) Type of machine;

b) Maximum power to be transmitted;

c) Diameter, width and speed of driving pulley;

d) Diameter, width and speed of driven pulley;

e) Shortest centre distance;

f) Steel tape length around the pulleys; and

g) Operating condition (load, shocks, exterior influences).

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